

IN THE CLAIMS:

Please add new claims 52-59 and amend claims 41, 46 and 47 as set forth in the complete listing of the claims and their status that follows.

Claims 1-36. (Cancelled)

37. (Previously presented) A method for dynamic stabilization of motion segments of the spine comprising the steps of:

repairing or replacing all or part of the intervertebral disc between at least two vertebrae;

positioning a stabilization element adjacent the spine, the stabilization element configured to span a length of the spine between the at least two vertebrae;

engaging bone anchors to at least two vertebrae; and

coupling the bone anchors to the stabilization element, with at least one of the bone anchors coupled to permit deflection of the bone anchor between the stabilization element and the corresponding vertebra to which the at least one of the bone anchors is engaged.

38. (Original) The method for dynamic stabilization according to claim 37, wherein the step of repairing or replacing includes replacing all or part of the nucleus pulposus with a polymeric prosthesis having physical properties substantially similar to the physical properties of a natural nucleus pulposus.

Claims 38(B) - 40. (Cancelled)

41. (Currently amended) A method for dynamic stabilization of a motion segment of the spine comprising the steps of:

introducing a device into an intervertebral space between two vertebrae to at least partially maintain or restore the natural motion of the disc at the motion segment; and

coupling a dynamic stabilization system across the motion segment, the system including at least one bone anchor engaged in each of the two vertebrae that permits natural motion of the ~~disc~~ motion segment by deforming a portion of the bone anchor.

42. (Original) The method for dynamic stabilization according to claim 41, wherein the device includes a device for replacing or augmenting the nucleus pulposus of the intervertebral disc.

43. (Original) The method for dynamic stabilization according to claim 42, wherein the step of introducing a device includes introducing a polymeric prosthesis to replace or augment the nucleus pulposus in which the polymeric prosthesis exhibits physical properties similar to the natural nucleus pulposus

44. (Previously presented) The method for dynamic stabilization according to claim 43, wherein the polymeric prosthesis is formed from a hydrogel.

45. (Previously presented) The method for dynamic stabilization according to claim 42, wherein the device for replacing or augmenting the nucleus pulposus is a mechanical device.

46. (Currently amended) The method for dynamic stabilization according to claim 41, wherein ~~the~~ each bone anchor includes:

an engagement portion configured for engagement within a vertebra of the motion segment;

a head portion configured for engagement to a stabilization element outside the vertebral body; and

a flexible portion between said engagement portion and said head portion.

47. (Currently amended) The method for dynamic stabilization according to claim 41, wherein the dynamic stabilization system includes:

a stabilization element configured to span a length of the spine between at least two vertebrae; and

~~at least two anchors,~~ each of said anchors including a head portion configured for contacting said stabilization element and an engagement portion configured for engaging a vertebra, and ~~at least one~~ each of said anchors including a flexible portion between said head

portion and said engagement portion configured to permit relative movement between said head portion and said engagement portion.

Claims 48 - 51. (Cancelled)

52. (New) A method for dynamic stabilization of a motion segment of the spine comprising the steps of:

repairing or replacing all or part of the intervertebral disc between at least two vertebrae;

positioning a stabilization element configured to span a length of the spine between said at least two vertebrae; and

engaging a bone anchor in each of said at least two vertebrae, each of said bone anchors including a head portion configured for contacting said stabilization element, and an engagement portion configured for engaging a vertebra, said bone anchor engaged in at least one of the vertebrae including a flexible portion between said head portion and said engagement portion configured to permit movement of said head portion relative to said engagement portion.

53. (New) The method for dynamic stabilization according to claim 52, wherein the step of repairing or replacing includes replacing all or part of the nucleus pulposus with a prosthesis having physical properties substantially similar to the physical properties of a natural nucleus pulposus.

54. (New) A method for dynamic stabilization of a motion segment of the spine comprising the steps of:

introducing a device into an intervertebral space to at least partially maintain or restore the natural motion of the disc at the motion segment; and

coupling a dynamic stabilization system across the motion segment that permits natural motion of the disc by allowing substantially full natural rotation of the motion segment in the anterior/posterior (A/P) plane in both directions during normal flexion and extension.

55. (New) The method for dynamic stabilization according to claim 54, wherein the step of introducing a device includes introducing a device for replacing or augmenting the nucleus pulposus of the intervertebral disc.

56. (New) The method for dynamic stabilization according to claim 55, wherein the step of introducing a device includes introducing a polymeric prosthesis which exhibits physical properties similar to the natural nucleus pulposus.

57. (New) The method for dynamic stabilization according to claim 56, wherein the polymeric prosthesis is formed of a hydrogel.

58. (New) The method for dynamic stabilization according to claim 54, wherein the step of coupling a dynamic stabilization system includes providing a center of rotation of the motion segment that is located substantially at the posterior surface of the pedicle of the vertebrae of such segment.

59. (New) The method for dynamic stabilization according to claim 54, wherein the step of coupling a dynamic stabilization system includes providing a stabilization element configured to span a length of the spine between at least two vertebrae and a bone engaging anchor for each vertebra, each of said anchors including a head portion configured for contacting the stabilization element and an engagement portion configured for engaging a vertebra, at least one of said anchors configured to provide a center of rotation situated between the stabilization element and the normal anatomic center of rotation for the motion segment.